

Serial No. 10/506,972 Docket No. KAGEI-0103-US
Reply to Office Action dated 11/23/2005

In the Claims:

Claims 1-12 are presently active in this case:

1. (Currently Amended) A ~~grease bath seal for a~~ swing mechanism of a construction machine, comprising:

an inner ring on the side of a vehicular base carrier relatively rotatably coupled with an outer ring on a swing frame on the side of an upper swing structure of the construction machine, a ring gear provided on the inner periphery of said inner ring and meshed with a swinging pinion on the side of said upper swing structure, a center joint located within an opening provided in said swing frame at a rotational center thereof, and a grease bath located beneath said swing frame and around said center joint and defining an annular grease bath portion around a top plateau wall connected to said center joint, thereby to lubricate meshed portions of said ring gear and said swing pinion, wherein said grease bath seal comprises:

an annular seal member having a height larger than a width of a spacing between said swing frame of said upper swing structure and said top plateau wall of said grease bath in a free state and interposed in a compressed state between said top plateau wall and said swing frame at a position radially outward of said center joint; and

said seal member being detachably fixed either on the side of said swing frame or on the side of said top plateau wall of said grease bath, and having an annular sliding portion extended out in a radially inward direction from the other side for pressed sliding contact with said top plateau wall or said swing frame.

2. (Original) A grease bath seal as defined in claim 1, wherein said seal member is located at a position in the proximity of said center joint.

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3. (Previously Presented) A grease bath seal as defined in claim 1, wherein said seal member is formed by an annular main block having an anchoring end portion of a length on the outer peripheral side and a lipped end portion on the inner peripheral side thereof, said lipped end portion having an annular lip portion erected at and along inner periphery thereof, and said grease bath seal further comprises a seal holder in the form of a ring of a staggered shape in section having a raised seal holder portion at a height from upper surface of said top plateau wall of said grease bath, and a base portion formed around outer periphery of said seal holder portion and fixed on said top plateau wall at a position in the proximity of said center joint.

4. (Previously Presented) A grease bath seal as defined in claim 3, wherein said lip portion is projected upward from said lipped end portion of said main block and adapted to be bent downward through upon abutment against lower side of said swing frame through elastic deformation for sliding contact with the latter over a width in radial direction.

5. (Original) A grease bath seal as defined in claim 3, wherein said seal member is provided with a lubricant reservoir on said main block radially on the outer side of said lip portion to store the same lubricant as the one in said grease bath.

6. (Original) A grease bath seal as defined in claim 5, wherein said lubricant reservoir is in the form of an annular groove formed on the top side of said lipped end portion radially on the outer side of said lip portion to store the same lubricant oil as the one in said grease bath.

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7. (Original) A grease bath seal as defined in claim 5, wherein said lubricant reservoir is formed by an annular projection provided at and along outer periphery of said lipped end portion of said seal member.

8. (Original) A grease bath seal as defined in claim 7, wherein said annular projection is arranged to have a sufficient projection length for sliding contact with lower side of said swing frame.

9. (Original) A grease bath seal as defined in claim 8, wherein said annular projection is adapted to bent upon abutment against lower side of said swing frame through elastic deformation in an opposite direction relative to direction of elastic deformation of said lip portion.

10. (Previously Presented) A grease bath seal as defined in claim 1, wherein said top plateau wall is divided into two separable plateau sections, said two separable plateau sections including an outer plateau wall section formed integrally with other bath-forming walls of said grease bath, and an inner plateau wall section connected to said center joint on the inner peripheral side thereof.

11. (Original) A grease bath seal as defined in claim 10, wherein inner and outer peripheral ends of said outer and inner plateau wall sections are joined with each other at a position, and said seal member is located across joined ends of said outer and inner plateau wall sections.

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12. (Original) A grease bath seal as defined in claim 1, wherein said plateau wall is connected to said center joint in such a way as to leave one or a plural number of gaps or opening around said center joint.